Appendix I

North Bend Gravel Operation Historic, Cultural, and Archaeological Technical Report

NORTH BEND GRAVEL OPERATION HISTORIC, CULTURAL AND ARCHAEOLOGICAL TECHNICAL REPORT

For

KING COUNTY
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TABLE OF CONTENTS

Page

FIGURES

1.0 INTRODUCTION

This technical report addresses potential impacts on historic, cultural and archaeological resources from the proposed development of gravel extraction and processing operations in North Bend, Washington. Cadman, Inc., in coordination with King County Department of Planning and Community Development, has retained Dames & Moore to complete an Environmental Impact Statement (EIS) for the proposed North Bend Gravel Operation. The project area is located east of the community of North Bend, Washington, north of I-90, and west of 468th Avenue SE, Exit 34 (Figure 1).

1.1 ALTERNATIVES

Development of a gravel extraction and processing operation has been proposed on land located east of North Bend, in unincorporated King County. Four alternatives have been defined for the land, which are the basis for the analyses presented in this technical report:

- Alternative 1 – No Action.
- Alternative 2 – The Proposal involves development of two separate areas of land, referred to as the Edgewick (Lower) Site and the Grouse Ridge (Upper) Site, for gravel extraction and processing. Operations will include the excavation, washing, crushing, sorting, and stockpiling of sand and gravel. Construction of concrete and asphalt batch plants in the Lower Site is planned in later stages of site development. Extraction would initially occur on the Lower Site, with material hauled from the site via Exit 34. Material from the Upper Site would be moved to the Lower Site using a 36 to 42-inch-wide conveyor.
- Alternative 2 – Lower Site Option. Cadman, Inc. has included this option to decrease the footprint of the Lower Site's gravel operations to keep the operations at least one-quarter mile from the nearest residence. The amount of gravel to be removed will be reduced accordingly.
- Alternative 3 – Gravel extracted from the Edgewick (Lower) Site would be transported from the site via Exit 34. After extraction has been completed the Lower Site, the Upper Site would be developed, with material hauled out via Exit 38 and SE Grouse Ridge Road. Aggregate processing would take place on the Upper Site. The concrete and asphalt batch plants would be located at the Lower Site. This alternative does not include a conveyor line between the Lower and Upper Sites.
- Alternative 3 – Lower Site Option. Cadman, Inc. has included this option to decrease the footprint of the Lower Site's gravel operations to keep the operations at least one-quarter mile from the nearest residence. The amount of gravel to be removed will be reduced accordingly.
- Alternative 4 – Under this alternative, the Lower Site would not be developed. Extraction and aggregate processing would occur at the Upper Site, with processed materials hauled out via SE Grouse Ridge Road. Onsite concrete and asphalt batch plants are not included in this alternative.

Current plans for the proposed gravel operation include development of various processing and handling facilities within an existing gravel mine (approximately 65 acres), extraction of gravel from the Upper Site (approximately

260 acres), and a conveyor system to transfer quarried material to the processing facilities (Figure 2). Among the project alternatives is the elimination of the conveyor system that would require the trucking of quarried materials to the processing facilities via SE Grouse Ridge Road. Another alternative eliminates some of the processing facilities, with the remaining operation activities concentrated on the Upper Site.

1.2 STUDY AREA

The gravel mining operation is proposed to take place on land located east of North Bend, Washington, in unincorporated King County. The land is owned by Weyerhaeuser Company and leased to Cadman, Inc. Two separate sites would be leased for the proposed development. The Lower Site is north of I-90 and east of 468th Avenue SE. The Lower Site is about 115 acres. The Upper Site is north of I-90 on the Grouse Ridge plateau, and is about 578 acres. The sites are approximately 1 mile apart. The Upper Site is approximately 900 feet higher than the Lower Site.

The study area includes the two leased sites (approximately 700 acres) and the conveyor line connecting the sites. Figure 1 shows the geographic bounds of the area considered in this analysis. The impacts discussed within this technical report are limited to that study area.

1.3 METHODOLOGY

Among the tasks completed in preparation for the EIS is an archaeological survey of the proposed gravel quarrying operation, including project alternatives, and the review of all known historic and cultural resources within the area of potential effect. As part of this survey, Dames & Moore was asked to identify and record all prehistoric and historic cultural resources within the proposed project area and, if needed, provide recommendations for their proper management. This report documents the results of that investigation.

1.3.1 Prefield Research

Prior to the initiation of fieldwork, a record search and literature review were conducted at the Washington State Office of Archaeology and Historic Preservation (OAHP), Olympia, Washington. This study included a review of ethnographic and historic literature and maps, archaeological base maps and site records, survey reports, and atlases of historic places on file. The purpose of the record search was to ascertain the extent of previous archaeological surveys in the project vicinity, as well as the presence or absence of previously recorded cultural resources or potential historic or prehistoric sites within or immediately adjacent to the study area.

The review revealed that no previously identified cultural resources are within the proposed project area. The record search also revealed that the only recorded sites within 1 mile of the proposed project area consist of two trestles associated with the Chicago, Milwaukee, Saint Paul, and Pacific Railroad line, located south of I-90. Just over a mile away is Camp Waskowitz, a former Civilian Conservation Corps (CCC) Camp currently used by the Highline Public School District. Historically, the camp was known as Camp North Bend and was home to CCC members working on Forest Service projects during the latter 1930s.

To further assist in securing information regarding potential cultural resources located in or near the project area, requests for information were submitted to local Native American groups, including the Muckelshoot, Puyallup, Snoqualmie, and Tulalip Tribes. These requests for information are included in the Appendix.

1.3.2 Previous Investigations

One project of particular relevance to the current investigation is the archaeological investigation associated with construction of the access road to the State of Washington Fire Service Training Center (Welch, 1981). During the course of the reconnaissance, Welch (1981:E-8) observed a number of possibly prehistoric items on the surface of a terrace adjacent to the South Fork of the Snoqualmie River. These included a spall tool, fire-cracked rock, and a scraper, among a variety of modern refuse (e.g., charcoal, beer bottles, and cartridges). Shovel tests placed into the terrace resulted in no additional cultural materials. Welch (1981) subsequently placed two 1×2 meter (m) excavation units into the terrace. A wooden net mender and one basalt flake were recovered, one from the upper 10 cm of each unit. Based on soil profiles, Welch concluded that the area had been previously disturbed and was thus ineligible for listing on the National Register of Historic Places (NRHP) (Welch 1981:E-17). The finds were apparently not recorded as an archaeological site, given that a site record does not appear within the files of the OAHP.

In 1984, a reconnaissance for the North Fork Snoqualmie River Municipal Water Supply Project was conducted by Kennedy and Larson (1984). The survey included an area near North Bend, in the vicinity of Tokul Creek. A prehistoric site was recorded at the confluence of Tokul Creek and the Snoqualmie River (Kennedy and Larson, 1984:95).

A number of archaeological surveys have been conducted within the boundaries of the Mount Baker-Snoqualmie National Forest. U.S. Forest Service archaeologists conducted surveys of seven timber sales in the Alice Creek, South Fork, and Ollalie Creek areas, and the North Bend district of the forest. Two sites associated with early logging, the Harris Creek Trestle and Minot Spur Debris Scatter, and two sites affiliated with early transportation, segments of the Snoqualmie Wagon Road and the Tinkham Wagon and puncheon, were identified (Hollenbeck, 1991; Johnson, 1993; Peter, 1979; Slaught, 1994; Waggoner, 1979, 1985; White, 1978, 1982).

Various other proposed projects including improvements at Ski Acres, water and sewer system upgrades, development of a trials bicycle event area, and a river bank stabilization project at the Tinkham Campground, required the completion of archaeological surveys (Hollenbeck, 1992, 1995; Waggoner, 1983a, 1983b, 1986; White, 1979, 1981, 1983). No previously unknown cultural resources were identified during these investigations.

The staff of Mount Baker-Snoqualmie National Forest (Carter 1978; Cohn, 1990; North Bend Tickler File, n.d.) conducted other investigations, including an historical development plan for the North Bend Ranger District and a reconnaissance of the Alpine Lakes Wilderness Area. The historical plan encoded attributes of the known historic sites in the District, including segments of the Snoqualmie Wagon Road, for a thematic study of early transportation in the area. The reconnaissance identified Camp Mason, originally known as Bide-a-Wee, established by homesteader Charles Beard as a store and stop-over point for early travelers over the Pass. A Forest Service investigation of the site's condition in 1990 identified a water transmission line as the only extant remains.

In early June 1998, archaeologists monitoring construction of a water-treatment plant on the South Fork of the Tolt River identified a concentration of stone flakes and tools within a bulldozer cut. By early July, the archaeologists had placed 212 probes on the small terrace approximately 300 feet above the river on which the site (45-KI-464) was situated. A series of excavation units have been subsequently placed into the deposit.

What are particularly interesting about the discovery is that 45-KI-464 lies within an upland rather than riverine setting, the fact that the deposit is nearly a meter deep, and the relatively old age of the site. Preliminary findings suggest that 45-KI-464 exhibits a component dating back nearly 7,000 years as evidenced by several artifacts that appear to belong to the Olcott/Cascade tool traditions. Other artifacts recovered from the site appear to be much more recent, possibly associated with the ethnographic Snoqualmie occupation of the region. It is worth noting that the Snoqualmie have a place-name for the location, referring to the area as *Stuwe'yuqw*.

1.3.3 Field Reconnaissance

The initial reconnaissance was undertaken on February 25-26, 1999, by Michael Kelly (Dames & Moore Senior Archaeologist) and Mark Hale (Dames & Moore Project Archaeologist). This initial investigation was confined to the primary project area, consisting of the proposed gravel mine, the facilities locale within the existing gravel mine, and the route of the proposed conveyor belt (Figure 2). A subsequent visit was made on May 28, 1999, to examine the project alternative that eliminates the conveyor belt and allows for expansion of the access road to the fire training center, and again on April 4, 2000, to examine the southern expansion of the Upper Site and the area of the proposed pond on the Lower Site.

To the extent possible, all portions of the proposed project and the alternatives were examined (Figure 2). Much of the ground surface within the project area, except the existing gravel mine, was obscured by dense vegetation. To increase ground visibility, 20 cm x 20 cm patches were occasionally cleared using hand tools or footwear. In general, a patch was cleared every 30 to 40 meters across the entire project area. In some locales, however, debris from past logging (i.e., slash) was more than a meter deep, preventing such techniques from being implemented. Unpaved roadways, furrows, drainage banks, and rodent burrows were also examined for evidence of past human activity.

In addition to state and federal regulations, King County has also established policies to manage cultural resources. These policies apply to private projects conducted on all lands under County jurisdiction. Specifically, King County Code 20.62 *Protection and Preservation of Landmarks, Landmark Sites and Districts* states that cultural resources, including "buildings, sites, districts, structures, and objects of historical, cultural, architectural, engineering, geographic, ethnic, and archaeological significance" are a "significant part of the heritage, education and economic base" of the County. Such resources can be designated as King County Landmarks using criteria similar to the NRHP eligibility criteria discussed above.

King County Code 20.62 also gives the County's historic preservation officer the authority to require the implementation of a "professional archaeological survey" as part of the project-approval process. A technical report documenting the investigation, which includes mitigation alternatives, must be provided prior to any disturbance of known archaeological sites. The officer may approve, disapprove, or require permit conditions to mitigate adverse impacts on known archaeological resources.

1.4 REGULATORY SETTING

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. Numerous laws, regulations, and statutes, at both the federal and state levels, seek to protect and manage cultural resources. These include the following: Antiquities Act of 1906; Historic Sites Act of 1935; Reservoir Salvage Act of 1960; National Historic

Preservation Act (NHPA) of 1966; National Environmental Policy Act of 1969; Executive Order 11593 (Protection and Enhancement of the Cultural Environment, 5/13/1971); 36 CFR 800 and CFR 60 (Advisory Council on Historic Preservation: Protection of Historic and Cultural Properties, Amendments to Existing Regulations, 1/30/1979, National Register of Historic Places, Nominations by States and Federal Agencies, Rules and Regulations, 1/9/1976); Revisions to 36 CFR 800 (Protection of Historic Properties, 1/10/1986); Archaeological and Historical Preservation Act of 1974; American Indian Religious Freedom Joint Resolution of 1978; Archaeological Resources Protection Act of 1979; the Native American Graves Protection and Repatriation Act of 1990; the State Environmental Policy Act (SEPA) of 1971 (RCW 43.21C), Public Lands Act (RCW 79), Forest Practices Act (RCW 76.09), Forest Practice Rules (WAC 222), Indian Graves Act (RCW 27.44), and the Archaeology and Historic Preservation Act (WAC 25). Collectively these regulations and guidelines establish a comprehensive program for the identification, evaluation, and treatment of cultural resources at both the federal and state levels.

As a project to be permitted by the Washington State Department of Ecology, SEPA is the regulation of most consequence. SEPA requires that cultural resources within a proposed project area be identified and that measures be proposed to reduce or control impacts on these resources. These measures are to be outlined within the environmental document produced for the project (i.e., EIS).

It is also possible that the project will ultimately require federal involvement (e.g., permitting, lease agreement) that would trigger Section 106 of the National Historic Preservation Act of 1966 (NHPA). Section 106, as amended, requires federal agencies to identify cultural resources that may be affected by any undertaking involving federal lands, funds, or permitting. In addition, the significance of the resources that may be affected by that action must be addressed using established criteria (36 CFR 60.4) for the NRHP. The criteria for NRHP eligibility are listed in 36 CFR 60 as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association, and

(a) That are associated with events that have made significant contributions to the broad pattern of our history; or

(b) That are associated with the lives of persons significant in our past; or

(c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) That have yielded, or may be likely to yield, information important in prehistory or history.

If a resource is determined eligible to the NRHP, then Section 106 of the NHPA (80 Stat. 915; 16 U.S.C. 470) and its implementing regulations (36 CFR 800) require that effects of the proposed project on that resource be determined. If NRHP-eligible resources are identified that would be adversely affected by the project, then prudent and feasible measures to avoid or reduce these adverse impacts must be taken. In addition, the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Officer (SHPO) must review and

comment on these measures. The ACHP has adopted regulations (36 CFR 800) that implement this commenting authority.

1.5 CULTURAL BACKGROUND

As a background to discussion of cultural resources within the project area, overviews of prehistory, ethnography, and history are provided below.

1.5.1 Prehistory

Compared to other areas of the greater Pacific Northwest, the prehistory of upland areas on the western slopes of the Cascades is poorly understood. Due to a variety of limiting factors, including poor site preservation, the small number of sites subjected to archaeological excavation, a paucity of radiocarbon dates, and few well-defined site components, a comprehensive cultural sequence has not been established for this region (Blukis Onat, 1987; Hollenbeck, 1987; Samuels, 1993). Instead, many studies have incorporated sequences from the adjacent Puget Sound and/or Columbia Plateau regions, which may have more or less relevance to the project area (Lewarch and Larson, 1977; Nelson, 1969).

Although no specific regional cultural sequence has been developed for the western slopes of the Cascades, studies conducted within the general vicinity are relevant to the current investigation. Perhaps the most important investigations, because of their proximity to the project area, are studies conducted at Chester Morse Lake (Lewarch, 1978; Samuels, 1993). At this locale, approximately 3 miles south of the project area, a sequence of projectile points spanning nearly 9,000 years was identified. Unfortunately, the general absence of organic remains and thus dateable components, has prevented development of a comprehensive cultural chronology.

Another important investigation was conducted by Nordquist (1960; 1961) at the Biederbost Site. Situated on the Snoqualmie River upstream of the confluence with the Skokomish River, this single-component site was found to date to A.D. 10 ± 80 years. Although characterized by an extensive lithic assemblage comprised of large corner-notched projectile points, various scrapers/gravers, and cobble tools, the site also contained artifacts indicative of a fishing industry. Preserved within the waterlogged soils of the site were bound net weighs, fishhooks, and twined basketry.

Farther up the Snoqualmie River, and thus closer to the project area, was the investigation by Blukis Onat and Bennett (1968) at the Tokul Creek Site. From the deposit a lithic assemblage was recovered that appears nearly identical to that of the Columbia Plateau's Cayuse phase. In addition, a local lithic tradition comprised of cobble tools was also revealed.

1.5.2 Ethnography

The delineation of precise geographic distribution of many Native American groups at the time of Euroamerican contact is often difficult, at best. The displacement of aboriginal groups in the Pacific Northwest began by at least the end of the 18th century (Campbell 1989).

Aboriginal populations were actually affected prior to the physical appearance of Euroamericans in the Pacific Northwest. These indirect effects were primarily the result of Euroamerican diseases that reduced the population by two-thirds or more (Boyd, 1985:398). It is believed that this depopulation may have changed the focus of

subsistence. Campbell (1989:188) has speculated that earlier populations may have been more widely distributed across the region, with later depopulated groups forced to concentrate in more productive environments, such as sections of rivers with anadromous fish runs.

Following the onslaught of explorers, fur trappers, traders, missionaries, and settlers who began arriving in the Pacific Northwest in the late 18th century, aboriginal groups were affected more directly. Competition for a variety of resources, including land and foodstuffs, often proved catastrophic to the surviving Native Americans. The population distributions and lifeways of these surviving peoples are what have been presented in the ethnographic record. The following descriptions reflect this bias.

During the ethnographic period, the current project area is known to have been at least used, if not permanently occupied by, the Coast Salish-speaking Snoqualmie. According to Waterman (1920), at the time of sustained Euroamerican contact, the Snoqualmie consisted of two distinct groups, upper and lower bands. When the Point Elliott Treaty was signed in 1855, the Upper Snoqualmie band occupied the prairies above Snoqualmie Falls and the lower band inhabited the area from the Falls downriver to the confluence of the Snoqualmie and Skykomish Rivers (U.S. Court of Claims, 1933:29,178, 187). Population estimates for the Snoqualmie in the mid-1800s varied from a high of 373 in 1844 to a low of 225 in 1857 (Baenen, 1981:450). As noted previously, these estimates represent populations decimated by disease and do not reflect pre-epidemic population levels (Baenen, 1981:450).

Several sources documenting the number and location of ethnohistoric Snoqualmie villages occur within the ethnographic record. According to Watson Martin, a Snoqualmie Indian interviewed in 1927 at the age of 88, as many as 10 Snoqualmie villages containing 3 to 18 houses each were present (U.S. Court of Claims, 1933:178). A number of named villages are known for the Upper Snoqualmie, including *Soxqo'ko,* which was located on the prairie north of the Falls at the present town of Tokul. It is believed that this particular village was abandoned by ca. 1700 (Teit, 1928). *Sq-qo'qo* was reportedly located on the South Fork of the Snoqualmie River immediately south of North Bend (Waterman, 1920:48). Tollefson (1988) identifies three additional Upper Snoqualmie villages, *Bokwab*, *Sotsoks*, and *Tswodum*.

Another Snoqualmie village was near Tokul Creek, about 1 mile downstream of the Falls. Watson Martin referred to this village as *Toquill* (U.S. Court of Claims, 1933:178). Curtis (1913:174), however, identified the village in this location as *Tipahlduhl*. *Toquill* and *Tipahlduhl* may be references to the same village.

Three Lower Snoqualmie villages are identified by Tollefson (1988:121-124), one at the present site of Fall City, another at Carnation, and a third at the confluence of the Snoqualmie and Skykomish Rivers. Tollefson asserts that this last village was strategically placed to guard the mouth of the Snoqualmie River from intruders (1988:121).

The Snoqualmie subsisted primarily on inland riverine and terrestrial resources. Salmon were taken along the length of the Snoqualmie River and its tributaries below the Falls during the autumn runs from September through December. Additionally, trout and Dolly Varden were available in the Snoqualmie River and its tributaries, and in mountain lakes above the Falls. Freshwater mussels and crayfish were also procured from the waterways (Turner, 1976:31). Upper Snoqualmie people relied on kinship ties with villages below the Falls for salmon-fishing privileges, in return offering prairie resources such as deer, and camas and bracken fern roots (Larson, 1988).

The Snoqualmie, and in particular the Upper Snoqualmie, hunted throughout the year. Primary prey included deer and mountain goat. Lower Snoqualmie people supplemented their diets with resources from both lacustrine and marine environments. The prairies above Snoqualmie Falls provided camas and bracken fern roots, and wild tiger lily, which were gathered during the summer (Haeberlin and Gunther, 1930). In addition, a variety of berries were available to Upper and Lower Snoqualmie groups along the river and at Snoqualmie Pass.

1.5.3 History

Because of its steep and often irregular topography, the western slopes of the Cascades, including the foothills along the eastern boundaries of King County, contained limited potential for farming. On the other hand, timber was, and continues to be, of prime economic importance to the area. Euroamerican settlement of the Snoqualmie River Valley is largely an extension of the Puget Basin experience. As the massive supply of timber was depleted in the basin, loggers and their logging camps, occasionally mounted on railroad cars, moved into the upland old-growth forest. The first settlers arrived in the late 1860s to establish homesteads, often in areas cleared of timber by the loggers. In the 1870s, settlers in the Snoqualmie Pass area leased pasture to drovers moving cattle to Seattle through the pass; others operated way stations that furnished room and board to travelers (Prater, 1981:66).

Beginning in the 1870s, wherever the logged-over land was flat enough, farms were established. Cultivated crops included fruit orchards, various grains and forage grasses, and potatoes. Potato cultivation was, however, short-lived on the western slopes of the Cascades. During the late 1890s, an infestation of beetles eliminated the potato from the region. Hops were the Snoqualmie Valley boom crop of the 1880s. At one time, 1,500 acres were under cultivation, and harvesting of this crop required the employment of 1,200 Native Americans. The collection of buildings around the Hop Growers Association farm, in the vicinity of North Bend, included a post office, cookhouse, trading post, barns, and kilns. Kilns used to dry the hops operated around the clock (Evans, 1990:25; Prater, 1981:66).

By the early 1890s, loggers had moved into the vicinity of North Bend. A sawmill and shingle mill were in operation by 1890. In 1904, consolidation of this mill with another resulted in the establishment of the North Bend Lumber Company. By 1914, Weyerhaeuser and a smaller company had merged to form the Snoqualmie Falls Lumber Company, one of the largest on the Pacific Coast (Evans, 1990:29). This mill site included company houses, a company store, a school, hospital, railway station, and dormitory facilities for bachelor workers. This logging camp eventually became the present community of Snoqualmie Falls (Watson, 1992:np).

2.0 AFFECTED ENVIRONMENT

No historic, cultural, or archaeological resources were identified within the portions of the project area examined during the current investigation for all of the project alternatives. As stated previously, much of the ground surface is obscured by dense vegetation. Despite this, however, most of the project area does not appear to exhibit a high likelihood of containing significant archaeological resources. Most of the significant sites in the region occur along the numerous rivers and lakes in the area. In addition, the area in which some cultural materials were previously located, adjacent to the crossing of the Snoqualmie River by SE Grouse Ridge Road, has been altered by construction of a bridge.

3.0 ENVIRONMENTAL IMPACTS

3.1 CONSTRUCTION IMPACTS

3.1.1 Alternative 1 – No Action

There are no impacts associated with the No Action Alternative.

3.1.2 Alternatives 2, 3, and 4

There are no short-term construction-related impacts on historic, cultural, or archaeological resources associated with Alternatives 2, 3, or 4.

3.1.2.1 Lower Site Option (Alternatives 2 and 3)

There are no previously identified historic, cultural, or archaeological resources within the project area. There are no impacts on historic, cultural or archaeological resources associated with these options.

3.2 OPERATIONAL IMPACTS

3.2.1 Alternative 1 – No Action

There are no impacts associated with the No Action Alternative.

3.2.2 Alternatives 2, 3, and 4

There are no impacts on historic, cultural, or archaeological resources associated with Alternatives 2, 3, or 4.

3.2.2.1 Lower Site Option (Alternatives 2 and 3)

There are no previously identified historic, cultural, or archaeological resources within the project area. There are no impacts on historic, cultural, or archaeological resources associated with these options.

3.3 CUMULATIVE IMPACTS

There are no secondary or cumulative impacts on historic, cultural, or archaeological resources associated with the project alternatives.

3.4 SUMMARY OF MITIGATION MEASURES

As noted above, no archaeological resources were identified within the project area. It is possible, however, that previously undiscovered archaeological resources may be exposed during construction. Unless properly evaluated and managed, this could result in a significant impact.

Much of the ground surface of the project area was obscured by dense vegetation and/or logging debris, limiting the ability to efficiently conduct a surface reconnaissance. Although attempts were made to view the ground surface through the clearing of small patches every 30 to 40 meters, it is still possible that archaeological deposits remain undetected on the surface. Given the recent discovery of KI-45-464 well above the Tolt River, the

possibility of the current project area exhibiting similar resources seems plausible. To reduce the likelihood of encountering previously unidentified archaeological resources, it is proposed that the 260 acres that would be disturbed within the Upper Site be re-subjected to archaeological survey. This survey should be conducted only after the surface-obscuring vegetation has been cleared. Because areas that would be disturbed within the Lower Site have already been subjected to extensive earthmoving by previous projects, no similar mitigation measures are necessary for this site.

Even with implementation of additional archaeological surveys, it is possible that buried archaeological resources could be inadvertently exposed during ground-disturbing activities. As it is not recommended that such procedures be monitored by an archaeologist, it is imperative that the construction and operation crews be provided with training to ensure the proper treatment of exposed archaeological resources. This training would include instruction on what constitutes an archaeological resource (for example, exotic stone, marine shell) and the proper protocol in the event of such a discovery.

In general, under Alternatives 2, 3, and 4, the protocol would require that project activities in the vicinity of the find be temporarily halted and that a qualified professional archaeologist, the Office of Historic Preservation, King County OCR, and local Native American groups must be consulted to assess the resource. With appropriate consultation and the implementation of appropriate mitigation measures, and impacts would be mitigated to a less than significant level.

3.5 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

No historic, cultural, or archaeological resources were identified within the project area. As a result, no significant unavoidable adverse impacts are anticipated from this project.

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APPENDIX

CORRESPONDENCE

The information contained in this Appendix is on file with King County.